

June 6, 2014

Mr. Matt Francis
Environmental Restoration LLC
4870 Newport Street
Commerce City, Colorado 80022

**Re: Upper Gold King Mine Temporary Access Support;
D&A Job No. CG-0251.003.50**

Dear Mr. Francis:

This letter presents a scope of work to provide engineering services to Environmental Restoration LLC at the Upper Gold King Mine adit. We understand that Environmental Restoration LLC and the US EPA are evaluating the construction of a bulkhead in the Red and Bonita Mine on the east side of Cement Creek on County Road 53 approximately eight miles north of Silverton, Colorado. The Upper Gold King Adit is located approximately 400 feet above the Red and Bonita on the same vein structure. In order to enter and evaluate the baseline conditions of the Upper Gold King Adit, the partially collapsed portal and first 50 to 100 feet of adit must be excavated and re-supported. We understand that the adit was likely around 10 feet wide and 8 feet high.

SCOPE OF WORK

Task 1 – Review Gold King Mine History and Relevant Documentation

We will review mine maps, engineering reports, mine history papers, geologic maps, and geotechnical reports of the area around the Gold King Adit. We will not conduct a site visit.

Task 2 – Evaluate Geology and Ground Conditions

We will evaluate potential ground conditions based on our literature review and previous work in this area.

Task 3 – Temporary Support Specifications and Plan Sheet

We will develop a single plan sheet and excavation/support specification for incorporation into future bidding documents. The plan sheet will include typical rock bolt and mine strap details. It will also include typical steel set, lagging, and cribbing details. We understand that 10 foot diameter steel rings may be available. The design will include posts and footers for these sets. We assume that ER LLC will provide additional information on the steel sets including steel type, i-beam weights and dimensions, and plate details. The temporary excavation/support specification will include installation of steel sets, mine straps, and rock bolts along with guidance about what ground

conditions would justify their use. We will also review existing relevant Colorado DRMS specifications and comment on their applicability.

Limitations

Our scope of work is currently limited to a general geotechnical literature review and preparation of a typical support plan sheet and temporary support technical specification. We have not conducted a site visit or our own geotechnical investigation. Additional specifications and contract documents will be prepared by others. Should additional design, bidding support, or construction services be required, we would be pleased to provide you with an additional scope and cost.

SCHEDULE

We will proceed upon receipt of your authorization. We understand that that the intent is to bid this project in July with construction in September 2014.

PROJECT TEAM

The Principal-in-Charge will be Don W. Deere, P.E. The lead Engineering Geologist and design QA will be Roy Spitzer, P.G. The Project Engineer and main point of contact will be Christoph Goss, Ph.D., P.E. Mr. Deere, Mr. Spitzer, and Dr. Goss are experienced in many aspects of underground investigations, underground construction, and support design. The project team will be assisted by other staff as needed.

ESTIMATED PROJECT COSTS

We estimate the cost to provide the outlined engineering services for Tasks 1 through 3 to be CBI/Ex. 4. The costs are outlined in detail on the attached Table 1. We propose to complete the work on a time and materials basis using our standard unit rates. We will not exceed the estimated total for the work without justification and your prior written approval.

Please call with any questions or comments you may have. We appreciate the opportunity to work with you on another project.

Sincerely,

DEERE & AULT CONSULTANTS, INC.



Christoph Goss PhD, P.E.
Mining Engineer, Principal

TABLE 1
Gold King Adit Evaluation
ENGINEERING SERVICES COST ESTIMATE

Task	Description	Hours	Rate	Cost
1.	<u>Review Gold King Mine History and Relevant Documentation</u>			
	Deere	1	\$ 300	\$ 300
	Spitzer	1	\$ 175	\$ 175
	Goss	4	\$ 120	\$ 480
	Total Task 1			\$ 955
2.	<u>Evaluate Geology and Ground Conditions</u>			
	Deere	1	\$ 300	\$ 300
	Spitzer	2	\$ 175	\$ 350
	Goss	8	\$ 120	\$ 960
	Total Task 2			\$ 1,610
3.	<u>Temporary Support Specifications and Plan Sheet</u>			
	Deere	2	\$ 300	\$ 600
	Spitzer	8	\$ 175	\$ 1,400
	Goss	24	\$ 120	\$ 2,880
	CAD	16	\$ 92	\$ 1,472
	Clerical	6	\$ 88	\$ 528
	Total Task 3			\$ 6,880
	Postage, copying, printing, mileage, and other expenses	1	\$ 200	\$ 200
Total Project Engineering Services (rounded to nearest \$100)				\$ 9,600

SCHEDULE OF CHARGES 2014

	Rate
Principals/Project Managers	
Don Deere, P.E.	\$300
Dan Ault, P.E.	\$260
Colby Hayden, P.E.	\$190
Mark McLean, P.E.	\$190
Roy Spitzer, P.G.	\$175
Mark Severin, P.E.	\$175
Mike Ballantine, P.E.	\$170
Ray Eldridge, P.E.	\$170
Glen Church, P.E.	\$140
Christoph Goss, PhD, P.E.	\$120
Engineers/Geologists/Scientists	
Karl Fritz, P.E.	\$130
Paul Hunter	\$120
Branden Effland, P.E.	\$113
Jason Brothers, P.E.	\$113
Derek Foster, P.E.	\$108
Dave Swenson, EIT	\$103
Dan Mathes, P.E.	\$98
Victor de Wolfe, P.E., P.G.	\$97
Rhett Hines, P.E.	\$97
Angela Aldred, P.E.	\$97
Richard Bauer, P.E.	\$94
Nathan Germann EIT	\$84
Grant Johnson, EIT	\$84
Ted Deere, EIT	\$84
Josh Leininger	\$80
Laura Campbell, EIT	\$80
Bryan Black, EIT	\$80
CADD Technician	
Ian Reck	\$92
Byron Cowles	\$92
Bruce Hogness	\$92
Clerical / Technical Writer	
Sandra Pechin	\$88
Vicki O'Hagan	\$58

Direct reimbursable expenses, such as travel, printing, deliveries, copies, and other outside services shall be reimbursed at cost plus 10 percent. Mileage shall be reimbursed at the current allowable IRS mileage reimbursement rate. Rates are subject to an annual increase.

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